

REMARKS

Claims 1, 7 and 8 are pending and have been examined in the present application.

Claims 1 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Publication No. 2004/0209136 to Ren et al. in view of U.S. Patent Publication No. 2004/0001991 to Kinkelaar et al. Claim 8 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Ren et al. and Kinkelaar et al., and further in view of U.S. Patent No. 6,808,838 to Wilson. Applicants respectfully traverse these rejections.

Among the limitations of independent claim 1 which are neither taught nor suggested in the prior art of record is a solid electrolyte fuel cell having an evaporation inhibiting layer that is made of a woven or unwoven fabric containing a specific type of fibrous cellulose having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower.”

There are many benefits that the inventors have discovered with the use of a fibrous cellulose having the volume expansion and water migration properties defined in claim 1. For example, and as described in the present specification at page 6, line 19 to page 7, line 2, the use of such a specific type of fibrous cellulose is advantageous in that destruction of an MEA due to excessive expansion of the evaporating inhibiting layer can be avoided, and excessive drying of the cathode can be prevented while maintaining the capability of adsorbing or absorbing water.

As admitted on pages 4-5 of the Office Action, Ren et al. modified by Kinkelaar et al. does not disclose an evaporation inhibiting layer that is made of a woven or unwoven fabric containing a fibrous cellulose having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower.” The Office Action contends, however, that such properties are inherent in the materials disclosed in Ren et al. and Kinkelaar et al. Applicants respectfully disagree.

Applicants respectfully submit that the Office Action has not established a *prima facie* case of obviousness with respect to an evaporation inhibiting layer that is made of a woven or unwoven fabric containing a fibrous cellulose having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower” as required by independent claim 1.

As stated in §2112 of the MPEP, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art). In order to establish inherency, the extrinsic evidence “must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

Also, “[a]n invitation to investigate is not an inherent disclosure” where a prior art reference “discloses no more than a broad genus of potential applications of its discoveries.” *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71 USPQ2d 1081, 1091 (Fed. Cir. 2004) (explaining that “[a] prior art reference that discloses a genus still does not inherently disclose all species within that broad category” but must be examined to see if a disclosure of the claimed species has been made or whether the prior art reference merely invites further experimentation to find the species. Accordingly, it is well established that the disclosure of a genus in the prior art is not a disclosure of every species that is a member of that genus. *In re Baird*, 29 USPQ2d 1550 (Fed. Cir. 1994).

Thus, when “relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent

characteristic necessarily flows from the teachings of the applied prior art.” *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

The present Office Action merely concludes that the volume expansion coefficient and water migration properties at 80°C or lower are inherent in Ren et al. modified by Kinkelaar et al. without providing a basis in fact or technical reasoning to support this conclusion. This is improper.

It is well known that the particular properties of any given material can vary greatly and depend on many factors such as, for example, material density and type and amount of fillers or additives. Thus, reference to a genus of woven or unwoven fabric containing a fibrous cellulose does not mean that a specific species of material having a suitable volume expansion coefficient and specific water migration properties at 80°C or lower are disclosed. Nowhere does the Office Action even attempt to show that the materials disclosed in Ren et al. and/or Kinkelaar et al. allude to having “a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower” or recognize that such material properties are important. Accordingly, a *prima facie* case of obviousness has not been established and it is respectfully submitted that claim 1 patentably distinguishes over the combination of Ren et al. and Kinkelaar et al.

Wilson does not remedy any of the deficiencies of Ren et al. and Kinkelaar et al. Wilson does not disclose or suggest an evaporation inhibiting layer having a volume expansion coefficient of 4.5 or less and initiating water migration from the evaporation inhibiting layer to the cathode at a temperature of 80°C or lower, as specifically required by independent claim 1. Therefore, even if one were to combine the teaching of Ren et al., Kinkelaar et al. and Wilson, one would not arrive at the present invention as defined in independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 patentably distinguishes over the prior art of record..

Claims 7 and 8 depend either directly or indirectly from independent claim 1 and include all of the limitations found therein. Each of these dependent claims include additional limitations

which, in combination with the limitations of the claims from which they depend, are neither disclosed nor suggested in the art of record. Accordingly, claims 7 and 8 are likewise patentable.

In view of the foregoing, favorable consideration and allowance of the present application with claims 1, 7 and 8 is respectfully and earnestly solicited.

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